

47471

Rockets, satellites, and aircrafts ... D-17/217

cy mass spectrometer has only permitted the analysis that up to 20 km neither hydrogen nor helium were found in quantities exceeding 10^6 particles/cm³. The area between 200 and 1 - 2 km is characterized by the presence of intensive photochemical reactions and the existence of molecules (mainly those of nitrogen, and at 20 km only those of oxygen). Here the molecular nitrogen gives place to atomic oxygen in resonance. The upper atmosphere (600-1, 10km) contains mainly atomic oxygen, but in the neutral and ionized states. A nitrogen atmosphere, supposed to exist, is located at considerably greater altitude. During investigations conducted under the supervision of V. V. Mikhnevich, the USSR has ample data on the atmosphere's density up to 600-1, 10 km. The data obtained by means of the third Soviet earth satellite with barometers and spectrometers are of special interest. As the satellite had a speed which was one order above the thermal velocities of the atmosphere and ionosphere, a number of new problems have arisen in connection with the methods of measurements. A great contribution towards solving many of the new problems of this kind was made by A. I. Kepnev. The research results appeared in V. V. Mikhnevich on the third satellite differ from the work of all the other scientists.

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Soviet Space Research
Bibliography
Rockets, satellites, and investigations...
which was based on the fact of a satellite's tracking in the interval of the orbit. As regards accuracy of measurements, the method of V. N. Mikhnevich is superior. Investigations of the atmosphere have been made as possible, due to special pickups installed on the third satellite. During investigations of the collision frequency, the test by V. N. Nazarova [Ref. o: p. 21, 1961; "Izdatelstvennye vydaniya selenizda," "Astrophysics and Physics of the third satellite and the three satellites launched on Sept. 1, Sep. 4 and Oct. 1959. Collisions with Earth, having a mass of 10^{28} were recorded. The number of collisions per cm² calculated per 1 m² of the rocket's surface, was found to vary between $\times 10^{-7}$ and $\times 10^{-5}$. The third satellite recorded a sharp, but very intensive increase in the number of collisions up to 4-11 per sec. According to data obtained by Nazarova, the density of the dust in air increases towards the earth; the maximum dust concentration is at an altitude of 100-150 km from the Earth's surface. There are 9 figures and 16 Soviet bibliographical references.

ASSOCIATION: Institut Prikladnoi Geofiziki AN SSSR (Applied Geophysics of the Academy of Sciences of the USSR).
Card 6/6

MIRTOV, B.A.; STARKOVA, A.G.

Quantitative thermometric analysis of binary gas mixtures.
Zav.lab. 28 no.10:1194-1197 '62. (MIRA 15:10)

1. Institut prikladnoy geofiziki AN SSSR.
(Gases—Analysis) (Thermometry,

KHVOSTIKOV, I.A.; BEN'KOVA, N.P., doktor fiz.-matem. nauk, otd. red.;
MIRTOV, R.A., kand.viz.-matem.nauk, otd. red.; VERSTAK, G.V.,
red.; ISAKOVICH, T.D., red.; PODOL'SKIY, A.D., red.; PLENOVA,
T.P., tekhn. red.

[Papers] Sbornik statei. Moskva, Izd-vo Akad. nauk SSSR.
No.11 [Physics of ozonosphere and ionosphere] Fizika ozono-
sfery i ionosfery. 1963. 662 p. (MIRA 16:2)

1. Akademiya nauk SSSR. Mezhdovedomstvennyy geofizicheskiy ko-
mitet. V razdel programmy MCG.

(Atmosphere, Upper)

ACCESSION NR: AP4035090

S/ 0032/64/000/005/0575/0577

AUTHORS: Mirtov, B. A.; Starkova, A. G.

TITLE: The application of thermometric analysis to determining the composition of binary gas mixtures

SOURCE: Zavodskaya laboratoriya, no. 5, 1964, 575-577

TOPIC TAGS: thermometric analysis, high frequency discharge analysis, binary gas mixture, temperature measurement, argon admixture, oxygen admixture

ABSTRACT: The thermometric analysis consisted of measuring (with an electrocouple) the wall temperature of a capillary containing the gas mixture in which a high frequency current was generated. Experiments were performed on Xe, Ar, Ne, He, N₂, O₂, H₂, and CO₂, with each of these gases used as the main ingredient and all the others in turn constituting minor additions. The analysis is based on the principle that during the discharge every gas heats to a certain temperature and that any group contains "cooler" and "hotter" gases. The optimal conditions for analysis of a binary mixture exist when one of the constituents belongs to the "cold" group and the other to the "hot" group. The method used here showed the highest sensitivity when multivalent "hot" gases constituted the admixture to a
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ACCESSION NR: AP4035090

"cold" gas base. Under this condition it was possible to determine admixture content down to the 0.01-0.1% range (as little as 0.5 - 0.05% of xenon may be determined in multivalent "hot" gases). The summary of the analyses is shown in Table 1 of the Enclosure. Orig. art. has: 1 table and 4 figures.

ASSOCIATION: none

SUBMITTED: 00

DATE ACQ: 20May64

ENCL: 01

SUB CODE: GC

NO REF Sov: 001

OTHER: 000

Card 2/3

ACC NR: AP7005100

SOURCE CODE: UR/0203/66/006/002/0284/0291

AUTHOR: Mirtov, D. A.

ORG: Instituto of Applied Geophysics (Institut prikladnoy geofiziki)TITLE: Analysis of experimental data on determination of the O_{sub 1} and O_{sub 2} concentrations above the level of gravitational separation

SOURCE: Geomagnetism i aeronomiya, v. 6, no. 2, 1966, 284-291

TOPIC TAGS: atmospheric ozone, oxygen

ABSTRACT: For altitudes of 120 km and above the author has compared the time for mixing the atmosphere and the lifetime of O₁ and O₂. It was found that above 140-150 km the distribution of the concentrations of O₁ always should be in rigorous agreement with its barometric law of distribution. For O₂ the similar level is situated at approximately these same altitudes. This model is confirmed by an analysis of a number of experiments for determining the O₁ and O₂ concentrations. It is concluded that for measurements of the O₁ and O₂ concentrations at great heights in the atmosphere the optical measurement method is the most suitable. The author thanks B. A. Bagaryatskiy, G. S. Ivanov-Kholodnyi and R. I. Shirshov for discussions of the paper and valuable advice. Orig. art. has: 2 figures, 4 formulas, and 3 tables. [JPRS: 38,677]

SUB CODE: 04 / SUBM DATE: 19Feb65 / ORIG REF: 004 / OTH REF: 511.510.535
Card 1/1

L 33315-66 EWT(1)/EWT(m)/FCC/T WH/JW/NE/GW/NS-2

ACC NR: AP6011698

SOURCE CODE: UR/0203/66/006/002/0292/0297

AUTHOR: Mirtov, B. A.

60
57
B

ORG: Institute of Applied Geophysics (Institut prikladnoy geofiziki)

TITLE: Photochemical equilibrium of atmospheric oxygen at altitudes above 150 km

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 2, 1966, 292-297

TOPIC TAGS: atmospheric oxygen, upper atmosphere, photochemistry

ABSTRACT: Assuming the dominating role of the reaction of radiative recombination in the process of the association of oxygen atoms at altitudes above 120 km, the author constructs a theory of photochemical equilibrium of oxygen for altitudes above 140 km. For the case of stationary conditions the author, using the equation of photochemical equilibrium together with experimental data relative to the concentrations of atomic and molecular oxygen in high layers of the atmosphere, calculates the coefficient of radiative recombination α . The fluctuations from experiment to experiment of the quantity $[O_2] / [O_1]^2$ permits the hypothesis that the measured concentrations of O_1 and O_2 deviate from the case of stationary equilibrium, i.e., deviations from the case of photochemical equilibrium under actual atmospheric conditions. Apparently there is an additional factor in the actual

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UDC 551.510.335

L 33315-66

ACC NR: AP6011698

atmosphere which is not taken into account by the author's theory which removes the oxygen from a state of photochemical equilibrium. Attempts to correlate the observed variations of this ratio with seasonal, diurnal, and other changes of external conditions did not lead to positive results. Possibly these variations in the value of the ratio $[O_2] / [O_1]^2$ are caused by the presence in the atmosphere of an agent promoting additional dissociation of the oxygen molecules, for example, corpuscular fluxes. A more powerful hypothesis is that, owing to strongly developed processes of advection in the high layers of the atmosphere the concentrations of oxygen atoms and molecules do not reach a state of stationary dynamic equilibrium, thus upsetting one of the basic conditions which the author used in constructing the theory of the photochemical equilibrium of oxygen. A further accumulation of experimental data is needed to refine the nature of the change of the values of $[O_2]/[O_1]^2$. The author thanks B. A. Pagaryatskly, G. S. Ivanov-Kholodnyy, and A. D. Danilov for their useful discussion and advice. Orig. art. has: 1 table and 11 formulas.

SUB CODE: 04 / SUBM DATE: 27Feb65 / ORIG REF: 002 / OTH REF: 010

Card 2/2

SOURCE CODE: UK/UZU3/06/006/006/1013/1018

AUTHOR: Mirtov, B. A.

ORG: Institute of Applied Geophysics (Institut prikladnoy geofiziki)

TITLE: On the height of the gravitational separation

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 6, 1966, 1013-1018

TOPIC TAGS: gravitation effect, atmospheric current, atmospheric model

ABSTRACT: Some of the phenomena associated with the height of the boundary zone separating the region of atmosphere where molar and molecular mixings dominate are discussed. The estimate of the height of this zone is 105-115 km, which has also been established experimentally. The theoretically possible maximum wind velocities and vertical motions of air are obtained and references showing that only much lower velocities exist in real atmosphere are used to determine the amount of diffusive mixing of gas particles. Above 90 km, the scale of the mixing distance is not more than 5-10 km and wind velocity is not greater than 5-10 m/sec. This data combined with the diffusion computation result in the agreement between estimated and observed height of the gravitational separation zone. It is also pointed out that above this layer advection currents still exist and influence the horizontal state of distribution of atmospheric components. The seasonal variations are also discussed. Orig. art. has: 7 formulas, 1 table.

SUB CODE: 03,04/ SUBM DATE: 18Oct65/ ORIG REF: 006/ OTH REF: 006

Card 1/1

UDC: 551.510.4

WIRELESS

Primenenie sterzhej iz fasery (pererebki v aviacii) / po svedeniiam.
(In: Vsesoiuznaya konferentsiya po problemam aviakonstruktsii. 1st, 1960, 1961. Trudy, no. 2, v. 2nd, illus., tables, 128 rs.)

Title tr.: The use of laminated veneer rodlike members in aircraft structures.

1961. 071-243

SO: Aeronautical Sciences and Aviation in the Soviet Union, Library of Congress, 1961.

SOV/

1(2);1(3)

MIRIV K D
Bogdanov, Aleksandr Pavlovich, Rostislav Ivanovich Vinogradov, and
Konstantin Dmitriyevich Mirtov
Problems on Aircraft Construction and Strength 1 prochnosti samoletov (Collection of
1959. 230 p. Errata slip inserted. 7,000 copies printed.

Reviewer: Kh. S. Khazanov, Candidate of Technical Sciences, Docent;
Ed.: A.M. Yarunin, Engineer; Tech. Ed.: N.A. Fukhlikova; Managing Ed.: L.A.
Belyayeva; Engineer. Ed. of Publishing House: A.I. So-
kolov, Engineer.

PURPOSE: This text book was approved by the Ministry of Higher
Education of the USSR for students of aeronautics vuzes and depart-
ments.

COVERAGE: This collection of problems on the design and strength of
aircraft was compiled for the course "Strength analysis of air-

Card 1/ 4

APPROVED FOR RELEASE

Collection of Problems on Aircraft (Cont.)

SOV/2307

craft" and " Construction and design of aircraft". It is intended to aid students to solve engineering and analytical problems under the supervision of instructors and independently.

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AVAILABLE: Library of Congress

Card 4/4

IS/bg
9-18-59

AVAYEV, Sergey Aleksandrovich; AVAYEV, Sergey Anatolyevich;
BREIEV, Aleksandr Nikolayevich; MINT Y.A.
retsentent; SHTEYNBAUM, M.I., ret.

(Electric power supply division, plant No. 107
industry electric transmission, distribution and
electric power generation. Moscow, Legkaya Street, No.
1064. 41°).

L 06987-67 ENT(d)/EWP(v)/EWP(k)/EWP(h)/EWP(1)
ACC NR: AT6018283 SOURCE CODE: UR/3192/65/000/010/0145/0150

AUTHOR: Mertsalov, V. M.; Mirtov, V. K.

ORG: none

23
541

TITLE: Reference generator of random parametric disturbances with an
adjustable correlation coefficient

SOURCE: AN LatSSR. Institut elektroniki i vychislitel'noy tekhniki. Avtomatika
i vychislitel'naya tekhnika, no. 10, 1965, 145-150

TOPIC TAGS: automatic control R and D, random impulse generator

ABSTRACT: One of the possible methods of statistically testing a system
subjected to random disturbances is considered. The method can be used for
evaluating the effect of component-parameter spread on the performance of an
automatic control system. A reference generator of random parametric
disturbances would be necessary for such tests; it may consist of a random-signal
generator, a correlation-forming unit, and a storage unit. In an experimental

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UDC: 62 - 50 : 519.25

L 06987-67

ACC NR: AT6018283

hookup, a random signal generator was based on the fluctuation of conductance of liquid splashes which produced a large number of practically noncorrelated random signals. Standard equipment was used for the forming and storage units. The initial-circuit time constant was 1 nsec. Storage-unit output voltages were measured every sec. The discrepancy between the theoretical and experimental correlation coefficients was found to be within 10%. Orig. art. has: 3 figures, 14 formulas, and 1 table.

SUB CODE: 0914 SUBM DATE: none / ORIG REF: 002

Card 2/2 LC

MIRTOV, Yu. V.; WANG CH'AO-CHUN.

Automatic device for taking oscillograms. Avt. i trakt. prom. no.2:
41-42 F '56. (MLRA 9:6)

1. Moskovskoye Vyssheye tekhnicheskoye uchiliashchee imeni Baumana.
(Oscillograph)

MIRTOVA, A. V. [deceased]

Neogene deposits of Kuybyshev Province. Uch. zap. Kaz. un. 115 no. 16: 145-
160 '56.
(MLRA 10:3)

1. Kafedra paleontologii.
(Kuybyshev Province--Geology, Stratigraphic)

MIRTOVA E. A.

Name : MIRTOVA, E. A.
Dissertation : Fattening properties and some physiological features of the Murom group of swine breeds
Degree : Cand Agr Sci
Defended At : Moscow Order of Lenin Agricultural Academy K. A. Timiryazev
Publication Date, Place : 1956, Moscow
Source : Kritichnaya Letopis' No 6, 1957

USSR / Farm Animals. Hogs.

1-6

Abs Jour : Ref Zhur - Biologiya, No 16, 1957, 72090

Author : Mirtova, E.A.

Title : The Fattening of Muromsk Pedigreed Pigs

Orig Pub : Svinovodstvo, 1956, No 10, 13-17

Abstract : The fattening capacity of Muromsk Breed group (MB) were checked on a concentrated potato ration on small groups. MB pigs achieved full growth before the white ones, and in 6.5-7 months were in an optimum condition as to meat value. The MB pigs of the fatty type can be utilized for bacon production. At the age of six months and live weight of 90-100 kg, they fulfilled the GOST 1213-56 requirements. As to the supply of internal fat these pigs surpassed at 6 months of age the large white ones by 48.6 percent and at 9 months by 31.5 percent. The feeding output in the bacon type feeding was by 0.23 units higher than in the large white.

Card : 1/1

- 29 -

Q-4

USSR/Fer. Anials. Thc Svine

Abs Jour : Ref Zhur - Ecol., No 11, 1957, N 500 1

Author

Mikstova E.A.

Inst

Titl.

: Some Phy i logical Characteristics of the Svin'.

Orig Pub : Zhivotnovodstvo, 1957, No 11, 57-59

Abstract : When Murmansk pigs of the bacon type were slaughtered, 1-year-old pigs yielded 71.15 percent of pork, while large white pigs gave 68.71 percent of pork. Young ones yielded 44.82 percent of pork from their inner layer. The thickness of the lard layer was about the same in both groups (3.75-3.85 cm.). Costs of the fodder amounted to 1.70 and 4.95 rub. per head unit, respectively. Slaughtered pigs of the pork-lard type yielded 79.81 percent and 77.60 percent of pork, respectively. Murmansk young ones yielded 31.51 percent of inner layer lard, and the thickness of the lard layer was 7.05 cm. compared to 5.64 cm. in young ones of the large white breed.

Card

: 1/3

USSR/Farm Animals. The Swine

Q-4

Ats Jour : Ref Zhur - Biol., No 11, 1958, No 50041

Fodder costs amounted to 5.4% and 5.1 per feed unit, respectively. All carcasses were in a soi-lard condition when the young Muron'k cows were slaughtered. Only 71 percent of large white pig carcasses were in a soi-lard condition. In 8 months old Muron'k young the calorific value of weight increase was 15 percent higher. Digestibility studies of nutritional substances contained in the diet of Muron'k young pigs, as well as of protein, establish, of carbon balance, and of various interchanges demonstrated that basically, Muron'k young pigs stop growing at the age of 6 $\frac{1}{2}$ to 7 months, and that from then on an intensive fattening-up process develops, accompanied by a sharp decrease of oxidizing and respiratory processes. After the age of 7 months the 'ryashe', the amplitude of lung ventilation increases. In the large white breed it was still on the up-grade at that age. In the Muron'k breed pigs a considerable amount of certain utilized for producing lard at the start of the fattening-up process already. After reaching the age of 4 $\frac{1}{2}$ months these

Card

2/3

USSR/For All -1 . The Swine

At Jour : Ref Zhur - Biol., N. 11, 1958, N. 50041

Q-4

Fig. 11. Fat in % & percent, and after reaching the level of
fat with 10.7 percent or fat than 11.9% less
white blood (the above indicators are in the last figure).

Card : 2/3

MIRTOVA, N.A., aspirant.

Gas exchange in growing fattening pigs. Dokl. TSKhA no. 27:265-270
'57. (MIRA 11:4)
(Respiration) (Swine)

MIRTובה E. A.

Q-2

USSR/Farm Animals. Swine.

Abs Jour: Ref Zhur - Biol., No. 22, 1953, 101160

Author : Mirtova, E. A.

Inst : Moscow Agricultural Academy imeni K.A. Timiryazev.

Title : Fattening Qualities of Uromsk Breed Swine.

Orig Pub: Dokl. Mosk. s.-kh. akad, im. K.A. Timiryazeva,
1957, vyp. 30, ch. 2, 272-277

Abstract: When fattened for bacon, six-month-old Muransk
breed swine (MS) attained a live weight of 95.19
kg and Large White (LW) swine, 93.4 kg. When
fattened for meat and lard, MS attained a weight
of 150 kg on the 251st day of their lives, and
LW swine on the 253rd day. Among slaughtered
animals, 100 percent of MS and 71 percent of

Card 1/2

19

MIRTOVA, L. F.

MIRTOVA, L. F. - "Regeneration of the Peripheral Nerve and Tissue Dystrophy After Additional Irritation of the Organism." Sub Oct 52, Acad Med Sci USSR. (Dissertation for the Degree of Candidate in Biological Sciences).

See: Vechernaya Moskva January-December 1952

MIRTOVA, L.M. (Moskva)

Trophic disorders in animals during ontogenesis following
experimental injuries of the nervous system. Pat.fiziol.
eksp.terp. 4 no.1:49-53 Ja-F '60. (MIRA 13:5)

1. Iz laboratori igravnitel'nogo ontogenеза nervnoy sistemy
(zav. - prof. A.A. Volokhov) Instituta normal'noy i patolo-
gicheskoy fiziologii.
(NERVOUS SYSTEM physiol.)

ZOLENKOVA, Ye.G.; MIRTOVA, L.M.

Functional and structural features of the cerebral cortex in
trauma during ontogenesis. Zhur. vys. nerv. deiat. 10 no. 1:10-
19 Ja-F '60. (MIRA 14:2)

1. Laboratory of Comparative Ontogenesis of the Nervous System,
Institute of Normal and Pathological Physiology, U.S.S.R. Academy
of Medical Sciences, Moscow.
(CEREBRAL CORTEX-- WOUNDS AND INJURIES)
(CONDITIONED RESPONSE)

MIRTOVA, L.M.

Some structural characteristics of the development of motor analyzer
in decapitated rabbit fetuses. Arkh. anat., glist. i embr. 48 no.6:22-
29 Je '65. (MIRA 18:7)

1. Laboratoriya vozrastnoy fiziologii i patologii tsentral'noy
nervnoy sistemy (zav. - prof. A.A.Volokhov) Instituta mozga AMN
SSSR, Moskva.

VA,

4-1954X

APPROVED FOR RELEASE: 06/14/2000

MIRTOVSKAYA, V.N.

CIA-RDP86-00513R001134610008-7

Course and outcome of acute disorders of the cerebral blood circulation in hypertension. Sov.med. 23 no.1:83-86 Ja '59.
(MIRA 12:2)

1. Iz kafedry nervnykh bolezney (zav. - dots. P.Ya. Roze, nauchnyy rukovoditel' - prof. N.V. Mirtovskiy) Dnepropetrovskogo meditsinsko-go instituta.

(HYPERTENSION, compl.

cerebral hemorrh., progn. (Rus))

(CEREBRAL HEMORRHAGE, etiol. & pathogen.
hypertension, progn. (Rus))

MIRTOVSKAYA, Ye.V., dotsent (Saratov).

Clinical aspects of tuberculous lymphadenitis of the abdominal cavity. Klin.med. 31 no.12:46-51 D '53. (MLRA 7:1)

1. Iz fakul'tetskoy terapevtskoy kliniki (zaveduyushchiy - professor L.a.Varshamov) Saratovskogo meditsinskogo instituta. (Lymphatics--Tuberculosis)

MIRTOVSKAYA, Ye.V., dotsent.

Case of gastroesophageal tuberculosis. Klin.med. 34 no.4:84 Ap '53.
(MLRA 6:7)

1. Fakultetskaya terapevticheskaya klinika Saratovskogo meditsinskogo
instituta. (Stomach--Tuberculosis) (Esophagus--Tuberculosis)

MIRTOVS'KIY, M.V., prof.

Vegetative semeioteca in organic injuries of the nervous system. Medycr.
zhur. 16:412-420 '47. (MIRA 16:11)

1. Z kliniki nervovikh khvorob (zav. - prof. M.V.Mirtovs'kiy) Dnipro-
etrov'skogo medichnogo institutu.
(NERVOUS SYSTEM--DISEASES)

MIRTOVS'KIY, M.V., prof.

Vegetative dissociations in wounds of the peripheral nerves. Medich.
zhur. 16:421-425 '47. (MIR 10:12)

1. Z kliniki nervovikh khvorob (zav. - prof. M.V.Mirtovs'kiy)
Dnipropetrovs'kogo medichnogo instituta.
(NERVES--WOUNDS AND INJURIES)

MIRTOVSKIY, Nikolay Vasil'yevich

[Disorders of the circulation of the blood in the brain]
Narusheniia mozgovogo krovoobrashcheniya; klinicheskie
lektssi. Moskva, Medgiz, 1958. 204 p. (MIRA 12:6)
(BRAIN--HEMORRHAGE) (THROMBOSIS)

MAKARCHENKO, A.F., prof., otv. red.; KULIKOVSKIY, A.G., kand. med. nauk,
red.; LITVAK, L.B., prof., red.; MIRTOVSKIY, N.V., prof., red. [deceased];
MINTS, A.Ya., kand. med. nauk, red.; SLOHIMSKAYA, V.M., prof., red.; SA-
VENKO, S.N., prof., red.; FRUMKIN, Ya.P., prof., red.; SHAROVSKIY, S.N.,
prof., red. [deceased]; BYKOV, N.M., tekhn. red.

[Problems in clinical neurology and psychiatry] Problemy klinicheskoi
nevrologii i psichiatrii. Kiev, Gos.med.izd-vo USSR, 1961. 308 p.
(MIRA 14:12)

1. Ukrainskoye respublikanskoye obshchestvo nevropatologov i psichiatrov.
(NERVOUS SYSTEM—DISEASES) (MENTAL ILLNESS)

MIRTOYAN, S. A.

4666. Mirtoyan, S. A. vrediteli i bolefni dekorativnykh derev'yevi
kustarnikov i bor'ba s. nim. yereva , lzd-vo ar arm. ssr. 1954, 112 s. s
ill. 20 sm. (akad. nauk arm. ssr. nauc.-popul seriya. 10) 2,000 skz. i r. 15k—
na arm. ya —(54-57816) 625.976/7: 632-132.2/7:635.976/7) (47.925)

Chemical Abst.
Vol. 48 No. 8
Apr. 25, 1954
Sugar, Starch, and Gums

(b)
Conductometric control of maturing of low-grade (beet) sugars in 1949-50 campaign. A. Mirčev. *Listy Čakrov.* 66, 337-9 (1949-50); cf. *C.A.* 44, 2775i.—Measurements of cond. before centrifuging afford a better over-all evaluation of boiling and maturing than do sep. detns. of ash, temp., Brix, or molasses purity; all sugars should be adjusted (within $\pm 10\%$) to give the figure for cond. known to give a good strike.

卷之三

Tbilisi U.

MILTON HULLAVIT, I-H

四庫全書

41 श्रीमद्भागवत

721. Балыкчы Абдесельман	Түркменистан, Гургантан, Ахтырка	1943
тюмень, Гургантан, Ахтырка		119 c
Заг. 1940. № 24-12		Заг. 1943. № 21.
722. Касымов Мансур Нияз	Казахстан, Актобе	1943
Приемник тюменской группировки	Тюмень, Актобе	1943
известен как участник антифашистской	Сибирь, Тюмень	1943
группы, действовавшей в Тюменской	Сибирь, Тюмень	1943
области с 1941 по 1943 гг. В 1943 г.	Сибирь, Тюмень	1943
вступил в красную армию. Затем в 1943 г.	Сибирь, Тюмень	1943
был арестован АМН СССР (ГУР)	Сибирь, Тюмень	1943
Заг. 1942. № 23-10		Заг. 1943. № 21.
724. Ахметов Бекетов Фа	Казахстан, Актобе	1943
зарубежье. Находился в изоляции	Казахстан, Актобе	1943
в Казахстане, но подчинялся	Казахстан, Актобе	1943
Ахметову и его группе, действовавшей	Казахстан, Актобе	1943
в Азии в то время, представляющей	Казахстан, Актобе	1943
один из центров антифашистской	Казахстан, Актобе	1943
группировок в Центральной Азии	Казахстан, Актобе	1943
Заг. 1940. № 206		Заг. 1943. № 21.
725. Масирбеков Борис Миха		Заг. 1943. № 21.
лович. Представитель рабочей демократии		Заг. 1943. № 21.

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APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7"

MIRKHALILAEVA, D.H.

Met. Allo.

3

A Quasi-Chemical Theory of Disordering in Binary Alloys
I. A. Mirkhaliilova [Zhur. Fizich. Tverd. Tela, 1949, 10,
(37-387-317)-in Russian]. On the assumption that the
energy associated with disorder is governed entirely by the
number of "incorrect" nearest neighbors around each atom,
M. treats a partially disordered alloy, containing equal parts of
metals A and B, as an ordered alloy in which "distortions"
of different degrees are produced by interchanging pairs of
"correct" atoms which have different numbers of "incorrect"
nearest neighbors. The thermodynamic potential of such
a system is calculated, and from the condition that it must
have the min. value, the equilibrium numbers of "dis-
tortions" of different degrees at a given temp. are determined.
From these numbers the degrees of long-range and short-
range order in the crystal are determined. Hence it is
shown that the critical ordering temp. T_c is given by
$$(T_c/l)^{1/2} = e^{-1} \rho_0^{1/2} l^{1/2} / 2A$$
 where l is Holzmann's
const. and the ρ_0 terms are the interaction energies of atom
pairs AA, BB, and AB. The jump in sp. heat near the temp.
 T_c is found to be 2.6 L, but it is spread over a temp. range.
On taking account of higher degrees of distortion, a sharper
jump in the sp. heat is obtained on passing through T_c . (L. H. II)

USSR/Chemistry - Electrolytes

Nov 51

Theory of Concentrated Electrolytes," I. A. Mirtashvili, Acad Sci Georgian SSR, Inst of "Zurn Fiz Khim" Vol XXV, No 11, pp 1347-1354

Since basic Debye-Hückel eq, foundation of contemporary theory of strong electrolytes, only 1st approximation, treating only bilateral interaction of ions in soln, is devoted to theoretical development of general method for calcn of multilateral development of general among ions. Since no assumptions are made

USSR/Chemistry Electrolytes (Contd) Nov 51

relative to nature of forces acting among ions, formula found for function of ionic distribution can also be used in any case where type of close-acting forces can be determined. It is noted that calcn of multilateral ionic interaction is necessary, though inadequate, in solns of strong electrolytes.

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CIA-RDP86-00513R001134610008-7

MIRTSKHULAVA, I. A.

Electrolytes

Theory of concentrated solutions of strong electrolytes. Part 3. Zhur.fiz.khim., 16,
No. 6, 1952.

Monthly List of Russian Accessions, Library of Congress, November 1952. Unclassified.

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7"

MIRTSKHULAVA, I.A.

Electrolytes

Thermodynamics of concentrated solutions of strong electrolytes. Part 2. Zhur. fiz. khim. 26, No. 1, 1952.

Monthly List of Russian Accessions, Library of Congress, September 1952, Unclassified.

CA

PHYSICAL CHEMISTRY

General & Organic
Chemistry - C

Theory of concentrated solutions of strong electrolytes.
III. I. A. Mirtskhulava (Georgian Acad. Sci., Tbilisi).
Zhur. Fiz. Khim. 26, 798-801(1952); cf. *ibid.* 29.—Free
energy, activity coeff., osmotic coeff., and heat of diln. of
asym. electrolytes are calc'd. from the distribution function
which takes account of the multiple interaction of ions.
Coulomb's law is assumed and one definite value is attrib-
uted to the dielec. const. of the solvent. J. J. Bikerman

MIRTSKHULAVA, I. A.

Jan 10, 1954
General And
Physical Chemistry

The dependence of electric conductivity and dielectric constant on the frequency of the external field and the electrolyte concentration. IV. I. A. Mirtskhulava (Acad. of Georgian S.S.R., Tiflis). ZH. Fiz. Khim. 27, 840-860 (1953); cf. C.A. 47, 4039g - Equations are given for the cond. and dielec. const. of sym. binary electrolytes having a finite ionic radius when interactions between more than 2 ions are considered. J. J. Bikerman

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"APPROVED FOR RELEASE: 06/14/2000

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APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7"

5/15/62/CCC/JC4/330/160
A061/A101

AUTHOR: Mirtskhulava, I.

TITLE: Determination of the coefficients of recombination by the stochastic method

PUBLICAL: Referativnyj zhurnal fizika, no. 1, 1961, Institute of Physics, Tbilissk. un-ta, Tbilissk, Georgia (Russian summary)

TEXT: It is assumed that an ion moves discontinuously (N being the number of discontinuities) from one interstice to another, and that the fixed recombination center is surrounded by a sphere of radius R , within which, if entered, leads to recombination. It is shown that, for $N \gg 1$, the probability that the defect occurs within this sphere is described by the equation of diffusion, whose solution yields the following expression for the coefficient of recombination:

$$\frac{4\pi D}{R} \left(\frac{1}{r} - r^{-2} \exp(-ev/RT) dr + R^2 \right) \left(\frac{1}{2} t \right)^{-1/2}.$$

Here, D is the coefficient of diffusion of recombining particles, and $V(r)$ is the potential of recombination center. It is further assumed that the condition

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Determination of the coefficients ...

will be used to find the time-dependence of the coefficient of proportionality. It is equivalent to $t \rightarrow \infty$, and, on this basis, the final time-independent expression

$$\frac{4}{3} \beta / J_R r^{\frac{1}{2}} \exp(-ev/RT) \text{ is}$$

obtained. This formula agrees with one of the expressions given by Lekker, for which the conditions of applicability were not indicated.

[Translator's note: Complete translation]

Card 2/2

L-12236-63

AT/IPC

ENT(I)/TWC(E)/BDS/EDG(b)-2

ATTG/ASD/EDG-3

PR-4

ACCESSION NR: AP3001266

S/0181/63/005/006/1514/1522

63

62

AUTHOR: Mitrokhin, I. A.

TITLE: - Determination of parameters of local centers in a semiconductor during prolonged excitation of light

SOURCE: Fizika tverdogo tela, v. 5, no. 6, 1963, 1514-1522

TOPIC TAGS: semiconductor, photon, electron, capture cross section, photoelectric current, impurity center

ABSTRACT: The author presents a new method for determining the principal parameters of local centers in a semiconductor (concentration, capture cross sections of photons and electrons, capture coefficient). This method is based on the kinetics of electron migration from one local level to another by continuous illumination of the semiconductor from local levels. Computations show that the photoelectric current increases from zero to some maximum value and then falls to zero again or to some standard value differing from zero. When the time interval from start of illumination to attainment of maximum photoelectric current is measured by experiment, and when the value of this

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ACCESSION NR: AP3001266

maximum is also determined, the values may be used to define the principal parameters of the local centers. The author derives his results from consideration of two local levels but concludes that a generalization for the case of more levels is easily made. Orig. art. has: 4 figures and 38 formulas.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet. (Tbilisi State University)

SUBMITTED: 26Dec62

DATE ACQ: 01Jul63

ENCL: 00

SUB CODE: 00

NO REF Sov: 004

OTHER: 002

Card 2/2

L 18387-63

ACCESSION NR: AP3003867 EWT(1)/EWP(q)/ZWT(m)/BDS AFFTC/ASD/LJP(C)/SSD JD
S/0181/63/005/007/1769/1775AUTHORS: Mirtskhulava, I. A.; Chikovani, R. I.; Shkol'nik, A. L.

TITLE: Determining the parameters of local levels by induced infrared impurity photoconductivity in single crystals of CdS

SOURCE: Fizika tverdogo tela, v. 5, no. 7, 1963, 1769-1775

TOPIC TAGS: impurity conductivity, photoconductivity, infrared, Cd, S, induced conductivity, hole trapping, recombination, level, absorption band

ABSTRACT: The authors investigate in single crystals of unalloyed CdS the induced infrared impurity photoconductivity from local levels arising from preliminary excitation of the crystal by light, from deeper local levels, or from the absorption band itself. They studied the kinetics of this photoconductivity for various ratios of number of electrons at trapping levels to number of sites (or holes) at recombination levels. They obtained experimental results by the method proposed by I. A. Mirtskhulava (FTT, 5, 1514, 1963) which permits one to determine the basic parameters in CdS. Their results were $(1.5-3) \cdot 10^{-16} \text{ cm}^2$ for capture cross section of a photon by a center, $(2-5) \cdot 10^{10} \text{ cm}^{-3}$ for concentration

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L 18387-63
ACCESSION NR: AP3003867

of electrons and $(3\text{-}8)\cdot10^{10}$ cm $^{-3}$ for concentration of holes at the local levels, and $(2\text{-}4)\cdot10^{12}$ cm $^3/\text{sec}$ and $(0.8\text{-}2)\cdot10^{-11}$ cm $^3/\text{sec}$ for capture cross sections of electrons from the conduction band at the deep levels and at the holes respectively. The authors conclude that their technique for determining parameters will be very effective in special alloys of crystals, permitting the determination of the basic characteristics of the parameters of previously introduced impurities, and then the investigation of the crystals by induced infrared impurity photoconductivity. Orig. art. has: 7 figures and 8 formulas.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

SUBMITTED: 18Dec62

DATE ACQ: 15Aug63

ENCL: 00

SUB CODE: PH

NO REF Sov: 012

OTHER: 005

Card 2/2

L 17984-65

ACCESSION NR: AP4046602

ENT(m)/EMP(t)/EXP(b) LJP(c)/AFNL/BSB/SSD/AS(mp)-2/ESD(t) JN
S/0181/64/006/010/2945/2952AUTHORS: Mirtakhulava, I. A.; Chikovani, R. I.; Shkol'nik, A. L.;
Dzhakhutashvili, T. V.TITLE: Determination of the local level parameters in doped ZnS
single crystals

SOURCE: Fizika tverdogo tela, v. 6, no. 10, 1964, 2945-2952

TOPIC TAGS: zinc sulfide, single crystal, local level, photoconductivity, thermally stimulated conductivity, impurity conductivity

ABSTRACT: The reason for the research was that the photoelectric properties of single crystals of ZnS have not been extensively investigated. There are practically no literature data on its impurity photoconductivity (particularly in the infrared region), and the induced photoconductivity was not studied at all. The authors therefore investigated the induced impurity photoconductivity in

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L 11984-65

ACCESSION NR. AP4046602

ZnS single crystals doped with Ag, Cu and Cl. The thermally stimulated conductivity in these substances was also investigated. The apparatus used was described earlier (FTT v. 5, 1769, 1963). The samples were placed in a metallic cryostat in which the measurements could be made in the temperature range from -180 to +160°C and in vacuum of $\sim 3 \times 10^{-6}$ mm Hg. The samples were heated with an external oven, at a rate 0.2 deg/sec. The single crystals measured $5 \times 2 \times 0.7$ mm, and were either not annealed or annealed in vacuum at 600°C for 4 hours. The peaks on the thermally-stimulated-conductivity curves were identified by means of a method of thermo-optical sounding, which is first proposed in this article. This method has established that the same centers appear both in the impurity photoconductivity and in the thermally stimulated photoconductivity. The results have shown that the population of the levels with the aid of charge exchange by excitation from deep local levels (attributed to the copper impurity in ZnS) is more effective than excitation from the intrinsic absorption band. The kinetics of the induced photoconductivity was investigated with the crystals excited with light

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L 11964-68

ACCESSION NR: AP4046602

2
of suitable spectral composition. The energy of thermal ionization of the centers was investigated from the thermally stimulated conductivity. The thermo-optical sounding method has made it possible to identify some of the levels responsible for the peaks in the curves of thermally stimulated conductivity and the spectral distribution of the photoconductivity. The main parameters of the local centers responsible for the induced photoconductivity at different temperatures are calculated, and the ratio of the optical and thermal energies of activation of the impurity centers is estimated. "In conclusion, the authors are deeply grateful to A. A. Sisoyev for supplying the samples." Orig. art. has: 7 figures, 1 formula, and 3 tables.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tbilisi State University)

SUBMITTED: 11Mar64

SUB CODE: 88, EM

MR REF Sovr: 008

ENCL: 00

OTHER: 008

Card: 3/3

ACCESSION NR: *P*
A4045203

S/0251/64/035/002/0299/0302

AUTHOR: Mirtskhulava, I. A., Chigogidze, Z. N., Kurdiani, N. I., Khvedelidze, L. V..
Dzhanelidze, R. B., Mirianashvili, M. M.

TITLE: The possibility of obtaining high-resistance, compensated crystals of indium
antimonide by heat treatment

SOURCE: AN GruzSSR. Soobshcheniya, v. 35, no. 2, 1964, 299-302

TOPIC TAGS: indium, antimony, indium antimonide, compensated crystal, crystal
electrical resistance, electrical conductivity

ABSTRACT: The resistance of indium antimonide is low primarily because of the
presence of impurities, $1.6-1.8 \times 10^{-2}$ eV, leading to compensation of band electrons at the acceptor levels at
impurity. A diagram shows the conductivity and Hall coefficient in relation to temperature
before and after heat treatment (450C). Because of the depth of the thermal acceptor
levels, it should be possible to obtain compensated indium antimonide with a resistance
of several kilohm, but this turned out to be difficult to achieve because of sensitivity of
the material to temperature, time of holding the temperature and the initial donor con-
centration. A graph of resistivity against time of heating showed a sharp maximum at
Card 1/2

ACCESSION NR: A^P4045203

about 2.5 hours. Up to the present, the authors have only managed to obtain 100-130 ohm-cm in p-type InSb having a hole concentration of 10^{13} cm⁻³, while maintaining a high carrier mobility of 5×10^3 cm/V-sec, but higher resistivities are expected in the near future. Crystals of the material were tested in fast, clamping switches of the breakdown type. The low breakdown voltage (40V/cm) and fast recovery time (microsec.) hold considerable promise. "The authors acknowledge aid from L.S. Kharishvili, I.M. Purtsealadze, Ye. K. Nemsadze, A.V. Matveyenko and V.G. Avalinal." Orig. art. has: 2 figures.

ASSOCIATION: Tbilisskiy gosudarstvennyy universitet (Tiflis State University)

SUBMITTED: 16Apr64

ENCL: 00

SUB CODE: SS, IC

NO REF SOV: 001

OTHER: 001

Card 2/2

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7

CONFIDENTIAL - NO. 12.

Department of Defense
Pentagon Annex, Washington, D.C.
Date: [Redacted] 19[Redacted]

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7"

114-57-1-2197

Translator from: Referativnyy zhurnal Mekhanika 1957 No. 1 p. 495 (USSR)

AUTHOR: Murskhuashvili, Ts. Ye.

TITLE: Calculation of Rigid Rectangular Plates on an Elastic Foundation
(Rachet zhestkikh pravmeoglinykh pletin na pnyom-sistemakh)

PERIODICAL: Izdat. Gruz. nauchno-tekhnichesk. melior. 1958 No. 3 (16)
pp. 1st - 132

ABSTRACT: An approximate calculation method for rectangular plates is created for rectangular plates lying on an elastic semi-infinite solid, the longitudinal sides of which are fixed or freely resting on rigid supports, while the transverse sides may have any desired conditions. In particular, the transverse sides may be either freely supported or fixed. The law governing the distribution of the reactive pressures is considered to be known and assumed in the form of a polynomial. [ref. Gulyas-Peskov -
M. I. Balk, plity na pnyom-sistemakh (Beams and Plates on
an Elastic Foundation). Stryymashzdat, 1949]. The problem
is reduced to the determination of the deflection from the differ-
ential equation for the deflections, solved by Serbie-Germaine
the solution of which involves the determination of the minimum
Card 1

134-57-2-2197

Calculation of Rigid Rectangular Plate, on an Elastic Foundation, by means
of a certain double integral. The deflection function is shown in the form

$$w = f(x_1) F(v_1)$$

where $F(v_1)$ is a known function which satisfies the boundary conditions of the fixed end for $v_1 = \pm b$, while function $f(x_1)$, because of the condition that the abovementioned integral attains a minimum, satisfies the Eulerian differential equation. The values of the deflections, bending moments, transverse forces, and torsional moments are derived for a square plate, the deflections are derived for a rectangular plate. By way of verification the case of a uniformly loaded square plate without an elastic foundation and the four edges of which are all fixed is examined. The magnitude of the deflection at the center of the plate, evaluated by the author, coincides precisely with the solution given earlier by S. P. Timoshenko [Plastinika obolochki, Plates and Shells, Moscow-Leningrad, Gostekhizdat, 1949].

Author of article: A. G. Ishkova
Card no. 2

Information from: Referat po zashchitnoi Mekhanike, 1988, № 1, p 110 USSR
SOV 174-58-1-74

AUTHOR - M. I. Shchegolev

TITLE - Calculation of Plates of Variable Thickness on an Elastic Foundation
Raschet ploshchadok zvezkostroya v usloviyakh nepravilnosti

PERIODICAL - Tr. Giprotransstroia i zvezkostroya, Nauka i tekhnika, N. 4, 1971
pp. 184-190 (in Russian)

ABSTRACT - An examination of the problem of the calculation of a plate of
variable thickness resting on an elastic foundation is made. The case of the
particular case where the thickness of the plate and the reaction of the
foundation are functions of the coordinate. The solution is
imposed by the case of the total clamping of the plate at all edges of the
plate. The distribution of the reaction pressures is assumed to be
in accordance with the Winkler hypothesis. The deflected surface of the
plate $w(x, y)$ is approximated in the form of a product of two
terms, i.e., $w(x, y) = u(x)F(y)$, of which one is arbitrary, selected to fit
the conditions obtaining at the clamped edge, while the other is deter-
mined from the condition of the minimum of a corresponding potential
integral related to the basic differential equation of the plate.

Category:

Calculation of Plates of Variable Stiffness on an Elastic Foundation
SOV 124-18-1 1974
Examples are given; comparisons with known results are adduced
P. K. L. P.

Card 2

14(10)

SOV/112-59-2-2719

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 2, p 62 (USSR)
AUTHOR: Mirtskhulava, Ts. Ye.

TITLE: On the Problem of Resistance of Coherent Soils to Erosion
(K voprosu ustoichivosti svyaznykh gruntov razmyvu)
PERIODICAL: Tr. Gruz. n.-i. in-ta gidrotekhn. i melior., 1957, Nr 18-19,
pp 485-493

ABSTRACT: Erodability of coherent soils was investigated in a special hydraulic glass chute of 50 x 30-cm cross-section and 750-cm long; two 30 x 15 x 15-cm chambers with soil samples cut from a monolith were inserted into the chute bottom. The samples were tested by a water stream whose velocity was raised by 0.15-0.20 m/sec steps up to the total destruction of the sample to a depth of 1-2 cm. The test results show that the eroding-velocity value for coherent aggregate soils depends on cohesion, upper plasticity limit, and hardness index. Shearing strength increases with cohesion forces. Artificial compacting

Card 1/2

On the Problem of Resistance of Coherent Soils to Erosion
of soils whose structure was disturbed increases their erosion resistance
which, however, is always lower than that for an undisturbed soil. Addition
of minor quantities of cement considerably increases the erosion resistance.
Fundamental problems for further investigations are: (1) developing methods
for evaluation of eroding velocities depending on cohesion and structure of soils
of different genesis; (2) more accurate methods of investigation;
(3) determining more accurate conversion factors connecting laboratory
experiments with natural conditions.

SOV/112-59-2-2719

M.B.G.

Card 2/2

MIRTSKHULAVA, TS.Xe.

Method for approximate determination of permissible velocities of
the flow of water for different canal linings. Trudy GruzNIGIM
no.20:220-224 '58.
(Canals) 'MIRA 15:5)

MIRTSKHULAVA, TS.Ye.

Physical and technical indices of the erosion resistance of cohesive soils. Trudy GruzNII(GIM no. 20:300-312 '58. MIRA 15:5)
(Erosion)

MIRTSKHULAVA, TS. Ye., kand.tekhn.nauk

Permissible standards for nonerosive water velocities in bound
soils. Dokl. Akad. sel'khoz. 24 no.5:45-48 '59. (MIRA 12:7)

I.Gruzinskiy nauchno-issledovatel'skiy institut gidrotekhniki
i melioratsii. Predstavlena akademikom Ye.A. Zamarinym.
(Soil mechanics) (Erosion)

3(0)

AUTHOR:

Mirtskhulava, Ts. Ye.

TITLE:

The Dependence of the Resistance to Washing on the Cohesion in
Coherent Soils (O zavisimosti soprotivleniya razmyvu svyaznykh
gruntov ot stsepleniya)

SOV/20-124-1-47/69

PERIODICAL:

Doklady Akademii nauk SSSR, 1959, Vol 124, Nr 1, pp 165-167 (USSR)

ABSTRACT:

The speed of erosion or non-erodability characterizes the erosion resistance and is determined by a great number of interrelated factors. The most important of these are the properties, composition, and condition of the coherent soils. The evaluation of the erosion resistance of loamy soils dependent on these factors produces difficult and as yet unsolved problems. Hence, at present, the non-erodability is determined by the type of soil, which is, on the other hand, defined by the mechanical composition and strength (Ref 1, 6-8). However, these two characteristics cannot be considered primary indices, as the soils in question have a complicated physical-chemical nature and are changeable (Refs 2-4). These characteristics are also dependent on the genesis of the soil, the mineralogical composition and the resulting influence of the physical-chemical and biological processes.

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The Dependence of the Resistance
to Washing on the Cohesion in Cohesive Soils

SOV/20-124-1-47/69

In the Gruzinskiy nauchno-issledovatel'skiy institut
gidrotehniki i melioratsii 'Georgian Scientific Research
Institute of Hydrotechnics and Soil Improvement)
58 different soil samples were tested for erodability and at
the same time their physical-technical and chemical properties
were determined. The resulting indices show the degree of
resistance of the cohesive soil to erosion. Figure 1 and table 1
show the results. Soils with a similar cohesion and a somewhat
similar erosion resistance were grouped. An analysis showed that
erosion takes place in cohesive soils when the resultant of the
active force, that is the cohesive force between the particles,
and the weight of the particles is overcome. The destruction
does not run through the mass of the aggregate but only along
the disturbed faces between aggregates with a weaker cohesive
force than that within the aggregate (Ref 5). From table 1 and
figure 1 it is clearly seen that the cohesive force in cohesive
soil expresses the erosion resistance, much better reflecting
the far-reaching complex of physical-technical and chemical
properties than the aforementioned indices. These forces are
complicated, based on inner relationships. Increasing the
cohesive force to 100 percent moisture capacity increases the

Card 2/3

The Dependence of the Resistance
to Washing on the Cohesion in Coherent Soils

SOV/20-124-1-47/69

resistance to erosion (as shown by experiment).
The determination of the dependence mentioned above is of great
significance in the solution of many construction-engineering
problems. There are 1 figure, 1 table, and 8 references, 5 of
which are Soviet.

PRESENTED: August 6, 1958, by D. V. Nalivkin, Academician
SUBMITTED: July 31, 1958

Card 3/3

MIRTSKULAVA, Ts. E. (Tbilisi)

"Velocity Profile in the Bottom Layer of a Turbulent Flow and the Analysis
of the Motion of the Sediments."

report presented at the First All-Union Congress on Theoretical and Applied
Mechanics, Moscow, 27 Jan - 3 Feb 1960.

MIRTSKHULAVA, Ts. Ye, Dr. Tech Sci — (diss) "Eroding and
Probable rates of a water stream for connected grounds and
Factors explaining them," Tbilisi, 1960, 20 pp, 15.00.
(Moscow Institute of Engineers of Water Economy in V. A. Klyushin,
The Georgian Sci Res Institute of Hydrotechnics and Irrigation)
(KL, 42-60, 113)

MIRTSKHULAVA, TS. Ye.

Experimental data on the tensile strength of clay grounds under
repeated variable loads. Inzh.-fiz.shur. no.2:94-96 p '60.
(MIRA 13:7)

1. Grusinskiy nauchno-issledovatel'skiy institut gidrotekhniki
i melioratsii, Tbilisi.
(Clay--Testing)

MIRTSKHULAVA, TS.Ye.

Investigating the movement of bed load by high-speed micro-cinematography. Izv. AN SSSR. Ser. geofiz. no. 6:879-881
Je '60. (MLRA 13:6)

1. Grusinskiy nauchno-issledovatel'skiy institut gidrotehniki
i melioratsii.
(Motion-picture photography—Scientific applications)
(Hydrology)

MIRTSKHULAVA, TS.Ye.

Method of calculating cohesive forces in estimating the erosion
resistance of cohesive soils. Meteor. i gidrol. no.7:30-32 Jl
'60. (MIRA 13:7)

(Soil mechanics)

(Erosion)

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7

MIRTA KHULAVA, TS.Ie.

Eroding and noneroding speeds of water flow for bound soils.
Trudy Grus NIIGIM no.21:61-76 '60. (MIRA 16:1)
(Erosion) (Hydrology)

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7"

"APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7

MIRTSKHULAVA, TS.Ye.

Mechanics of the movement of bottom sediments and the distribution
of velocities in the bottom layer. Trudy Gruz NIIGIM no.21:
293-302 '60.

(Hydrology) (Erosion) (MIRA 16.1)

APPROVED FOR RELEASE: 06/14/2000

CIA-RDP86-00513R001134610008-7"

MIRTSKHULAVA, TS.Ye., doktor tekhn. nauk

[Instructions on determining permissible noneroding
velocities of a water stream for bound soils] Указа-
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Role of the depth of flow in raising the resistance to washout
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(MIRA 16:1)

1. Gruzirskiy nauchno-issledovatel'skiy institut gidrotekhniki
i melior.tsii. Predstavлено akademikom D. V. Nalivkinym.

(Rivers) (Erosion)

L-03:0-67

ACC NR: AP6028057

(N)

SOURCE CODE: UU/0310/66/000/005/0038/0040

AUTHOR: Kirtukhulava, Tu. (Doctor of technical sciences; Professor)

ORG: GruzNIIGiM

TITLE: Method for calculating deformations of canal beds

SOURCE: Rechnoy transport, no. 5, 1966, 38-40

TOPIC TAGS: hydraulic engineering, civil engineering

ABSTRACT: A mathematical approach to the determination of deformations caused in navigation canals by moving vessels and their rotating screws is presented. According to various investigations the bottom and lower sections of side slopes are eroded by bottom wave actions. If the wave velocity exceeds the admissible value, compact fragments of cohesive soil materials are washed out of the canal bed. By taking into consideration the physical and mechanical properties of clay soils (adhesion, fatigue, repetitive tensile stresses, density, average size of fragments, etc.), the author derives the formulas for calculation of the number of cycles of stress for fracture and for determination of the admissible bottom velocity. Then, a formula expressing the discharge of particle flow (per second and unit width) is presented for a ratio of 1.2 between the actual and admissible velocities. Finally, two formulas are derived for determining the time and the depth of the bed washout. An example of calculation of the washout depth is presented. The accuracy of theoretical calculations proven by laboratory tests and

UDC: 626.1.001

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ACC NR: AP6028057

practical applications can be admitted as sufficient for approximate calculations. The investigations were conducted by the Gruzinskiy Scientific-Research Institute of Hydraulic Engineering and Melioration. The participation of S. A. Lashkarashvili, A. D. Purtseladze, T. Ye. Abashmadze, V. V. Maiumkiy and A. D. Gagnidze is mentioned. Orig. art. has: 20 formulas.

SUB CODE: /3,20,08/ SUBM DATE: None/ ORIG REF: 001

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P.F., inzh.; LARYUKHINA, G.G., inzh.; NEChETOV, G.P., inzh.;
NOVIKOV, A.G., inzh.; DUROV, V.K., inzh.; BAKSUKOV, A.F.,
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TELEGRAM, 1960

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Under/Human and Animal Morphology - The Skeleton.
Abe Jour : Ref Zhur Biol., N. 5, 1959, 2155C
Author : Mirsky, L.N.
Inst :
Title : Pathological Changes in Gunshot Facial Fracture
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Orig. Pub : Ortopedika travmatol. i protezir., 1956, N. 1, 112
Abstract : No abstract.

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